AMENDMENTS TO THE CLAIMS

Claim 1 (Canceled).

2. (Currently amended) ~~The~~ A transmission device ~~according to claim 1~~ conducting communication with predetermined quality ensured, comprising:

a classification unit classifying a packet of data to be transmitted according to each packet header,

a determination unit organizing a set of packets having the same packet header as a packet group according to a classified result by said classification unit, and determining whether to be transmitted with a bandwidth guaranteed according to a bit rate of the packet group, and

a request unit requesting a bandwidth control device to reserve a bandwidth for a packet group determined to be transmitted with a bandwidth guaranteed by said determination unit, wherein said determination unit comprises,

a measurement unit measuring the bit rate per predetermined unit time of said packet group,

a calculation unit calculating a parameter representing variation in the bit rate with a latest predetermined number of data to be a subject from a measured result by said measurement unit, and

a packet determination unit determining that the packet group is a packet group to be transmitted with a bandwidth guaranteed when the parameter calculated by said calculation unit is at most a preset value.

3. (Previously presented) The transmission device according to claim 2, wherein

said calculation unit increases the number of data to be the subject of calculation when the calculated parameter is larger than a preset value and recalculates the parameter, and

said packet determination unit determines that the packet group is the packet group to be transmitted with a bandwidth guaranteed when a value of said recalculated parameter is at most the preset value.

4. (Previously presented) The transmission device according to claim 2, wherein said calculation unit repeats calculation of the parameter until the parameter becomes at most the preset value, or said number of data to be the subject becomes a maximum that is determined in advance, while sequentially increasing the number of data to be the subject.

5. (Previously presented) A transmission device conducting communication with predetermined quality ensured, comprising:

a classification unit classifying a packet of data to be transmitted according to each packet header,

a determination unit organizing a set of packets having the same packet header as a packet group according to a classified result by said classification unit, and determining whether to transmit with a bandwidth of said packet group ensured, and

a request unit requesting a bandwidth control device to reserve a bandwidth for a packet group,

wherein said determination unit calculates a buffer capacity required when a packet group is to be transmitted in a specific bandwidth, performing the calculation with the bandwidth changed, deriving a relationship between a required bandwidth and a required buffer capacity, and determining whether the packet group is a packet group to be transmitted with a bandwidth guaranteed from said relationship.

6. (Previously presented) The transmission device according to claim 5, wherein said determination unit extracts a maximum value of the buffer capacity required for each requested bandwidth, and determines whether the packet group is a packet group to be transmitted with a bandwidth guaranteed depending upon whether a graph representing a relationship between a requested bandwidth and the maximum value of the required buffer capacity is within a predetermined region or not.

7. (Previously presented) The transmission device according to claim 6, wherein said determination unit causes said request unit to request a bandwidth in said predetermined region,

and requests a buffer unit to ensure the maximum value of the buffer capacity in said predetermined region.

8. (Previously presented) The transmission device according to claim 7, wherein said determination unit determines the bandwidth to be requested and the buffer capacity to be ensured such that a total cost is minimized based on a cost required to ensure the bandwidth and a cost of the buffer capacity.

9. (Currently amended) The transmission device according to claim ~~1~~2, wherein, when determination is made by said determination unit that a packet group once determined to be transmitted with a bandwidth guaranteed is not observed for a predetermined time and is no longer necessary to ensure the bandwidth, said request unit requests said bandwidth control device to release the bandwidth guaranteed for the packet group.

10. (Currently amended) The transmission device according to claim ~~1~~2, wherein, when there is a change of at least a predetermined criterion in characteristics of a bit rate of a packet group once determined to be transmitted with a bandwidth guaranteed by said determination unit, said request unit requests said bandwidth control device to modify the bit rate of the bandwidth guaranteed for the packet group to the latest value.

11. (Currently amended) The transmission device according to claim ~~1~~2, wherein, when there is a change of at least a predetermined criterion in characteristics of a bit rate of a packet group once determined to be transmitted with a bandwidth guaranteed by said determination unit, said request unit requests said bandwidth control device to release the bandwidth guaranteed for said packet group.